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10/564,399

01/12/2006

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EXAMINER

AL HASHEMI, SANA A

ART UNIT

PAPER NUMBER

2156

MAIL DATE

DELIVERY MODE

07/08/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------|--|
| Office Action Summary | Application No. 10/564,399 | Applicant(s) JANSSEN ET AL. | |
| | Examiner Sana Al-Hashemi | Art Unit 2156 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 13-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5-8,13 and 14 is/are rejected.
- 7) ☒ Claim(s) 2-4 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>1/12/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is issued after Appeal Brief filed 2/28/2010.

Claims 1-8, and 13-14 are pending.

Response to Arguments

Applicant may obtain an extension of time under 37 CFR 1.136(a) to file the appropriate appeal fee. The date on which the notice of appeal, the appeal fee, the petition under 37 CFR 1.136(a), and the petition fee are filed will be the date of the reply and also the date for determining the period of extension and the corresponding amount of the fee. In no case may an applicant respond later than the maximum SIX MONTH statutory period or obtain an extension pursuant to 37 CFR 1.136(a) for more than FIVE MONTHS beyond the date of reply set in an Office action.

In view of the appeal filed on 1/07/04, PROSECUTION IS HEREBY REOPENED. Non-final action set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

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Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Objections

Claims dated 2/28/2010 are objected to because of the following informalities:

Claims 9-12 were canceled, however they were not listed with the rest of the claims on pages 24-26, therefore are. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 5-8, 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ofek et al. (Ofek hereinafter) US Patent No. 6,397,308 issued May 28, 2002 in view of Yanai et al. (Yanai hereinafter) US Patent Application Publication No. 2006/0005074 filed Aug. 26, 2005.

Regarding Claim 1, Ofek discloses a method for modifying a database file organized in segments and stored on a storage medium of limited rewritability, the method comprising the steps of:

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reserving, within the database file, at least one area of predetermined size and position dedicated to writing thereto data records of at least one type (Col. 3, lines 1-6, wherein the partitioning corresponds to reserve a segment to write the data to, Ofek), respectively;

indicating within the database file (, Col. 3, lines 29-35 and Col. 18, lines 60-67, wherein the client handles manipulation and identification of the back up also corresponds to indicating, Ofek), as a last written segment that segment within

the area to which data records were last written (Col. 23, lines 7-11, and Col. 25, lines 40-47, Ofek); writing a specific data record of a specific type that is to be written to the database (Col. 16, lines 40-48, wherein the identified copies corresponds to the specific data record). Ofek discloses all the limitations as stated above. However, Ofek is silent with respect to after the last written segment within the area dedicated to the specific type. Although it is inherently disclosed in Ofek since the backup must complete the backup before making another backup (Col. 18, lines 60-65, Ofek). However, to expedite the prosecution a secondary art is presented that clearly discloses after the first is completed which in other words mean after the last segment is completed as disclosed by Ofek On the other hand Yanai at Para. 20, lines 1-4, discloses specific data record of a specific type that is to be written to the database, into at least one of: a next available segment and a next available segments, after the last written segment within the area dedicated to the specific type. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the Yanai teaching in the Ofek system. Skilled artisan would have been motivated to make such modification to the Ofek system to insure the full backup of the first track before backing up the second track and t data storage system containing the primary volume informs the host that an I/O sequence has successfully completed

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only after the data storage system containing the secondary volume acknowledges that it has received and checked the data. All accesses (reads and writes) to the remotely mirrored volume to which a write has been performed are suspended until the write to the secondary volume has been acknowledged. Further more the combination of Ofek in view of Yanai discloses continuing, whenever during the writing the end of the area has been reached, writing at a first available segment of the area (Col. 28, lines 15-25, Ofek).

Regarding Claim 5, Ofek in view of Yanai discloses a method wherein the size of the segments corresponds to an integer multiple of the size of sectors as defined in a physical format on the storage medium (Col. 2, lines 22-26, Ofek).

Regarding Claim 6, Ofek in view of Yanai discloses a method wherein the segments are allocated on the storage medium to be sector aligned (Col. 2, lines 56-66, Ofek).

Regarding Claim 7, Ofek in view of Yanai discloses a method wherein the indicating is realized by attaching to a data record to be written a version count value which is incremented and taken modulo a predefined upper bound upon each writing, the version count getting written to the database file as part of the data record being written thereto (Para. 151, Yanai).

Regarding Claim 8, Ofek in view of Yanai discloses a method wherein the size of the at least one area is chosen such that the average wear of the segments is equal (Col. 3, lines 57-61, Ofek).

Regarding Claim 13, Ofek in view of Yanai discloses a method wherein the size of the segments corresponds to an integer multiple of the size of Error Correction Code blocks as defined in a physical format on the storage medium (Fig. 2A, element 24, Col. 3, lines 47-67, and Col. 4, lines 20-32, since the Error Correction Code Block defined in the specification are

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the smallest segments readable and writable on optical data carriers, and the cited portion of the Ofek reference reads a data block is a unit of data that can be read as a single unit. A data block may be a 512 by the block of data, an 8 k segment on a 32 k track, or some other structure. In these examples, the size of the block is fixed. In other cases, the block may be of variable size, such as a CKD record. In a disk drive that includes multiple disks, the disks are conventionally stacked so that corresponding tracks of each disk overlies each other. In this case, specification of a single track on which information is stored within the disk drive includes not only specification of an individual track on a disk, but also which of the multiple disks the information is stored on, Ofek).

Regarding Claim 14, Ofek in view of Yanai discloses a method wherein the segments are allocated on the storage medium to be Error Correction Code block aligned (Col. 6, lines 4-7, Ofek).

Allowable Subject Matter

Claims 2-4 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: The prior art fails to disclose, teach or suggest the method for modifying a data record of a specific type in the database file wherein the database file contains an area dedicated to the specific type, and the method additionally comprises the steps of: reading, from the area, the data record, modifying the read data record, obtaining a first write address information indicating a segment within the area to which a data record of the specific type was last written, forwarding,

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as part of ensuring distributed write, the first write address information so that it indicates a next segment within the area which contains unused space, writing the modified data record to segments starting at the segment as indicated by the first write address information, and wherein the data record is a payload data record, the specific type is a "payload" type, the area is a payload area, the database file additionally has a control area and wherein the method additionally comprises the steps of: in case that an address information about the payload data record is contained in a control block within the control area, reading, from the control area, the control block; updating the address information in the control block to reflect the first write address; obtaining a second write address information indicating the segment within the control area to which a control block was last written; forwarding, as part of ensuring distributed write, the second write address information so that it indicates a next segment within the control area which contains unused space; writing the updated control block to the segment as indicated by the second write address information. Further more the applied art fail to disclose, teach or suggest the method used for deleting a payload data record from the database file , wherein the database file contains a control area, and the method additionally comprises the steps of: reading, from the control area, control blocks containing information associated to the payload data record to be deleted; marking, in the read control blocks, the payload data record to be deleted as deleted, thereby obtaining a modified control block; obtaining a write address information indicating the segment within the control area to which a control block was last written; forwarding, as part of ensuring distributed write, the write address information so that it indicates a next segment within the control area which contains unused space; writing the modified control block to the segment as indicated by the forwarded write address information.

Point of Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sana Al-Hashemi whose telephone number is 571-272-4013. The examiner can normally be reached on 8Am-4:30Pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre Vital can be reached on 571-272-4215. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sana Al-Hashemi/
Primary Examiner, Art Unit 2156
June 22, 2010

/Pierre M. Vital/
Supervisory Patent Examiner, Art Unit 2156